December 15, 2000

Response to Public Comments
Final National Pollutant Discharge Elimination System ("NPDES")
General Permit No. CAG280000 for Offshore Oil and Gas Exploration, Development and Production Operations off Southern California.

Public notice of EPA's tentative decision to issue the general permit, and to hold a public hearing on August 23, 2000 concerning the proposal, was published in the Federal Register on July 20, 2000 (65 Fed. Reg. 45063) and in the Ventura Daily Star on July 21, 2000. The following party provided testimony at the public hearing:

Tanya Gulesserian, Environmental Defense Center (EDC), on Behalf of Santa Barbara Channelkeeper (SBC)

The following parties submitted written comments on the proposed general permit (or fact sheet) within the public comment period which closed on September 5, 2000:

Western States Petroleum Association (WSPA)
EDC, on Behalf of SBC
County of Santa Barbara (CSB)
American Petroleum Institute (API)
Venoco, Inc.
Minerals Management Service (MMS)
Susan Belloni

One additional letter (from Robert Burke) commenting on the proposed permit was received slightly after the close of the comment period; however, this letter has also been included in the administrative record for the final general permit.

The testimony at the public hearing and the written comments which were submitted were reviewed by EPA (including the one late comment) and considered in the formulation of the final determinations regarding the proposed general permit. Our responses to the comments follow below. Numerous comments were also received on the Ocean Discharge Criteria Evaluation (ODCE) and the Essential Fish Habitat (EFH) assessment which were prepared in support of the permit issuance. Separate sections responding to the comments on these documents follow the responses to the comments on the general permit itself.

A. *Responses to Comments on the Proposed General Permit and Fact Sheet*

1) Comment: SBC and CSB expressed concern regarding the provision in the proposed

permit which provides for self-monitoring of discharges. Third party monitoring was recommended with a frequency of once/month. SBC also proposed that the third party monitoring replace the existing monitoring requirements to avoid increased costs to operators. In addition, SBC and CSB noted that third party monitoring is currently being conducted for four platforms as a result of the California Coastal Commission (CCC) consistency certification process for the individual NPDES permits for the platforms. WSPA supported the monitoring provisions of the proposed general permit. WSPA also disagreed that the third party monitoring arrangement proposed by SBC would not increase costs.

Response: EPA believes that the inspection and sampling activity which is conducted by MMS for EPA is sufficient to address the concerns of SBC and CSB regarding an independent assessment of the compliance status of the offshore facilities. In 1989, EPA and MMS entered into an MOA which provides that MMS will conduct certain inspection and sampling activities for EPA at offshore oil and gas facilities. Each year a workplan is prepared which sets forth the activities to be conducted by MMS for EPA. The workplan for FY 2000 includes the following activities:

- sampling for produced water at five platforms
- drilling mud sampling upon request by EPA
- records inspections at all platforms

The FY 2000 workplan also provides that MMS may invite interested parties (such as the commenters) to observe the sampling. In addition, in response to concerns which have been raised regarding possible Federal furloughs in the future, the workplan provides that EPA will request the California Central Coast Regional Water Quality Control Board to conduct the inspection and sample collection activities if EPA and MMS are unable to do so.

Region 9 would also point out that self-monitoring of discharges is authorized by section 308 of the CWA and is a standard provision of all NPDES permits issued across the country. EPA has found self-monitoring to be an effective and efficient tool for determining compliance with permit requirements and for ensuring proper operation of pollution control facilities. Moreover, EPA does not have the resources to conduct all the routine monitoring required by NPDES permits.

A requirement for third party monitoring (even as a substitute for an existing monitoring requirement by a permittee) may increase costs due to the added complexity as suggested by WSPA. However, such a requirement was omitted from the final permit not because of cost concerns, but because it is simply not consistent with the provisions of the CWA.

EPA also conducts inspections of permitted facilities to obtain independent information concerning the compliance status of permittees with effluent limitations and other conditions. As noted above, MMS conducts many of these activities at offshore platforms due to MMS's greater access to the platforms. However, EPA representatives also occasionally accompany MMS on

the inspections.

The frequency of inspections of facilities permitted under the NPDES permit program is determined by available resources and the compliance history of the permitted facilities. Given the generally good compliance history of the offshore oil and gas facilities, EPA believes the inspection and sampling frequency of the FY 2000 workplan is appropriate. As noted in the fact sheet, of the 104 samples of produced water taken by EPA/MMS over the last nine years, there have only been two exceedances of the oil and grease limit. In view of the results such as these, EPA does not believe that the level of oversight recommended by the commenters (sampling once/month) is justified.

However, EPA and MMS do plan to expand their oversight activities for the FY 2001 workplan, including the following:

•Twice/year WET testing of produced water from each of the 13 platforms which discharge produced water. This will result in 26 samples/year which is a significant increase over the 5 samples taken in the previous year. (WET testing is particularly useful since it measures the combined effect of all the pollutants in a discharge acting together.)

•Compliance sampling for chemical constituents limited in the permit at 6 production platforms rather than the 5 sampled last year. This would be nearly ½ of the platforms which discharge produced water.

•Continuation of the visual inspections and records inspections by MMS at least once/year at each platform as also provided in the FY2000 workplan.

Further, the FY2001 workplan continues to provide that the Central Coast Regional Board would step in and conduct the inspections and sampling if EPA and MMS were unable to do so. We expect this provision to be included in all future workplans as well. In addition, industry has agreed to fund the laboratory analysis in years that EPA is unable to do so.

With regards to the CCC's previous consistency requirements pertaining to third party monitoring, EPA would point out that the reissued general permit will be undergoing another consistency review by the CCC in the near future. Third party monitoring may or may not continue to be required by the CCC as a consistency condition.

2) Comment: SBC requested a copy of the FY 2000 workplan developed by EPA and MMS concerning offshore inspection and sampling activities. This commenter also expressed concern that the workplan only provides for sampling for produced water at five platforms. In addition, the commenter expressed a concern that the amount of exploration to be conducted during the term of the permit is "unknown." CSB contended that sampling of only five platforms would not comply with the 1989 MOA between EPA and MMS. CSB also expressed concern

regarding the level of activity which may be provided by future workplans and recommended that appropriate requirements be written into the permit.

Response: EPA provided a copy of the FY 2000 workplan to SCB in response to the request. EPA believes that sampling for five platforms is appropriate given the generally good compliance history of the industry (noted above in response to comment #1). However, as also discussed above, EPA and MMS plan to expand their oversight activities for FY 2001. In addition, it should be noted that the FY 1999 workplan provided for sampling of five platforms which were different from those in the FY 2000 workplan.

With regards to the amount of exploration expected during the term of the permit, MMS estimates that 5 to 6 exploratory wells may be drilled. Although this cannot be predicted with certainty, the impacts from exploratory activity should be small relative to production platform activity even if the MMS estimate is only approximately accurate. Moreover, EPA retains the option to reopen and modify the general permit if the discharges from a given facility (or facilities) are inappropriately regulated under the permit.

Lastly, EPA would note that the 1989 MOA with MMS does not specify any minimum number of platforms to be sampled. The MOA calls for the activities in any given year to be negotiated annually and specified in the annual workplan as has been done since 1989. With regards to future workplans, EPA cannot specify at this time what they may include. However, EPA believes that an adequate level of activity can reasonably be assumed for the future, given the generally good record of implementation of the MOA since 1989, and the increased activity anticipated for FY 2001.

EPA also believes that it would be inappropriate to try to write into the permit specific requirements such as the inspection activity to be conducted by MMS. EPA believes that the MOA with MMS is the more appropriate vehicle since this will ensure adequate flexibility for MMS in determining its annual commitments.

3) Comment: SBC recommended that the permit include a warning regarding the anti-backsliding requirements of 40 CFR 122.44(l) to improve the clarity of the permit. CSB noted that the limit for cadmium in barite appeared to be increasing from 2 mg/kg to 3 mg/kg in violation of anti-backsliding regulations.

Response: With regards to SBC's comment, EPA does not believe that such a warning is necessary. One condition was added to the general permit to ensure compliance with anti-backsliding regulations (the cadmium limit in barite of 2 mg/kg for Platforms Harmony and Heritage). EPA is not aware of any additional conditions which would be necessary to comply with the regulations nor did commenter provide any additional examples. EPA also believes that there is no uncertainty in the permit with regards to the limits which apply as a result of anti-backsliding regulations. There is only one such limit (the limit for cadmium in barite for Platforms Harmony and Heritage) and it is clearly stated in the permit.

With regards to CSB's comment, no permit limit for cadmium in barite is being increased from 2 mg/kg to 3 mg/kg. The only permit limit of 2 mg/kg for cadmium in barite which has ever existed on the California OCS is the limit in the individual permits for Platforms Harmony and Heritage which were issued in 1992. EPA's effluent limitations guidelines were promulgated in 1993 and include a limit of 3 mg/kg for cadmium in barite. To ensure compliance with the anti-backsliding regulations, the general permit retains the 2 mg/kg limit for cadmium for Platforms Harmony and Heritage. However, no other platforms on the California OCS have ever been subject to the 2 mg/kg limit for cadmium in barite. For platforms other than Harmony and Heritage, the effluent limitation guideline of 3 mg/kg is the appropriate limit to include in the permit.

4) Comment: Part I.B.1 of the proposed general permit provided that individual permits could be required as described at 40 CFR 122.28(b)(3). For clarity, SBC recommended that the specific criteria at 40 CFR 122.28(b)(3) (for example, when a facility is a significant contributor of pollutants) be included in the permit.

Response: As recommended by the commenter, EPA modified Part I.B.1 of the final general permit to include the specific criteria at 40 CFR 122.28(c)(3) which would be utilized in determining whether to require an individual permit. These criteria include circumstances in which a given discharger is determined to be a "significant contributor of pollutants (40 CFR 122.28(b)(3)(G)). EPA agrees with the commenter that the inclusion of these criteria will improve the clarity of the permit for the permittees. One factor, however, (40 CFR 122.28(c)(3)(F)) which addresses sewage sludge disposal practices was not included since this would not be relevant to the offshore facilities.

5) Comment: The proposed general permit required monitoring for 26 pollutants in produced water in order to perform an analysis of the reasonable potential of the discharges to cause or contribute to exceedances of marine water quality criteria. SBC recommended that the permit require sampling and a reasonable potential analysis for all priority pollutants.

Response: The list of pollutants for which sampling would be required was based on a review of sampling results in the Gulf of Mexico, offshore California, and worldwide. The 26 pollutants which were selected were the only pollutants which have been detected in produced water at concentrations which, in the judgment of EPA, CCC staff and other interested parties, could reasonably cause or contribute to exceedances of marine water quality criteria. The 26 pollutants were selected from a list which included all priority pollutants and certain other pollutants. As such, EPA believes that the list is appropriate and it has been included in the final permit. EPA would point out that the final permit also requires whole effluent toxicity testing which will measure the aggregate toxic effect of all pollutants in the discharges, including any which are not among the 26 for which sampling is required.

6) Comment: For produced water, SBC recommended that if inadequate data were available to evaluate reasonable potential at this time, then another source of data should be used

such as the Gulf of Mexico. This commenter also recommended interim limits for protection of the marine environment during the reasonable potential phase of the permit.

Response: Considerable DMR data are available from the monitoring requirements of previous NPDES permits and EPA has used these data to evaluate reasonable potential for numerous pollutants. Effluent limitations had been included in the final permit for pollutants where reasonable potential was determined to exist. However, EPA disagrees that another source of data (such as the Gulf of Mexico) should be used to set numeric effluent limitations based on reasonable potential for California. EPA cannot be sure that Gulf of Mexico results would be similar enough to California results to ensure that permit limits developed through this means would be appropriate. Nevertheless, as noted above in the response to comment #5, data from other areas were considered in determining the list of parameters for which reasonable potential would be evaluated. EPA would also point out that the reissued general permit retains numerous water quality-based effluent limitations from previous permits which would apply during the reasonable potential phase of the reissued general permit.

7) Comment: SBC asked about the monitoring requirements which would apply subsequent to the reasonable potential phase of the permit for produced water. This commenter also recommended that the public be notified of any changes in the permit as a result of the reasonable potential submittal. In addition, SBC recommended that the permit require modification of the permit within 30 days of EPA's review of the reasonable potential submittal.

Response: Subsequent to the reasonable potential phase, monitoring is required quarterly for any of the 26 pollutants for which reasonable potential is determined to exist based on the monitoring results. For pollutants with no reasonable potential, monitoring is required once 180 days prior to the expiration of the permit. Any proposed modifications to the monitoring requirements of the permit will be public noticed and all interested parties will have an opportunity to comment upon or object to the changes in accordance with 40 CFR Part 124.10. With regards to the time frame for any modifications, EPA anticipates that the modifications will become effective immediately after concurrence by the CCC. However, EPA cannot specify in the permit a deadline for the modification since the time needed for the modification is not known at this time.

8) Comment: SBC recommended that the permit clarify that non-aqueous based drilling fluids and associated cuttings would not be authorized by the permit.

Response: For clarity, EPA added a prohibition on the discharge of non-aqueous based drilling fluids and associated cuttings in Part II.A.1 of the final permit. A definition for non-aqueous based drilling fluids was also added which was obtained from EPA's proposed effluent limitations guidelines for these discharges (64 Fed. Reg. 5487, February 3, 1999).

9) Comment: SBC inquired as to whether the issuance of the general permit was consistent with the requirements of the National Environmental Policy Act (NEPA).

Response: Section 511(c)(1) of the CWA requires that NEPA be applied to the issuance of an NPDES permit for the discharge of any pollutant from a "new source" as defined in section 306 of the CWA. Part I.A.3 of the final general permit does not authorize any discharges from any offshore facilities which are "new sources." Thus, NEPA is not applicable.

10) Comment: SBC and CSB recommended that EPA require seabed surveys even though non-aqueous based drilling fluids and associated cuttings would not be authorized. SBC noted the mounds of drill cuttings left over by Chevron after recent abandonment of four platforms in State waters.

Response: EPA's pre-notice draft general permit of July 29, 1999 had included a requirement for seabed surveys (pre- and post-discharge) to assess the potential effects of the discharge of drill cuttings associated with non-aqueous based drilling fluids. This proposal was in response to the requirements of EPA's Ocean Discharge Criteria regulations (40 CFR Part 125 Subpart M). However, as noted in the final fact sheet for the general permit, industry subsequently indicated that it had no interest in using non-aqueous based drilling fluids on the California OCS at this time. EPA concluded in its Ocean Discharge Criteria Evaluation (see section V.H of the fact sheet) that the discharges which would be authorized by the general permit would not cause unreasonable degradation of the marine environment. Although mounds of drill cuttings may result near drilling operations, EPA does not believe that the mounds would constitute unreasonable degradation. Hence, EPA does not believe that the seabed surveys would be justified based on the discharges which would be authorized. However, if the permit were ever modified to authorize discharges of drill cuttings associated with non-aqueous based drilling fluids, the requirement for seabed surveys would be reconsidered. Further, such a modification would be conducted in accordance with the procedures of 40 CFR 124.10 and would provide the public with the opportunity to comment on any changes proposed for the permit.

11) Comment: SBC recommended that EPA carefully review the study required by Part II.G.6.a of the permit regarding the availability of online oil and grease monitors for produced water. The study is due four years into the term of the general permit. WSPA recommended a meeting with EPA and the CCC to discuss the study prior to its initiation.

Response: EPA intends to carefully review the study and do its own assessment of whether the study accurately reflects the availability of online oil and grease monitors for produced water. EPA is also willing to meet with WSPA, the CCC and other interested parties to discuss the scope of the study prior to its initiation.

12) Comment: SBC expressed concern that the term "daily max" as applied to produced water discharges did not seem to be defined in the permit.

Response: The term "daily max" is synonymous with "maximum for any one day" and is defined in Part II.B.6.b of the permit.

13) Comment: SBC requested that the comment period for the proposed general permit be extended until December 2000. The commenter noted that EPA is intending to propose revised Ocean Discharge Criteria regulations by the end of calendar year 2000 in response to a recent Executive Order from the President. The commenter also requested another public hearing to consider the effects of the new regulations on the permit. CSB requested a continuance of the general permit until the new regulations were in place. Alternatively, CSB recommended that the permit be reopened to include any new requirements after they are finalized in accordance with Part I.A.4 of the permit.

Response: EPA recognizes that new requirements potentially relevant to discharges from offshore oil and gas facilities may be developed pursuant to the President's recent Executive Order. Although revised regulations may be proposed by the end of 2000, the regulations are not expected to be finalized until the end of 2002. The revised general permit includes numerous requirements (such as the 1993 effluent limitations guidelines for oil and grease in produced water) which are more stringent and more environmentally protective than the limitations of many of the existing permits currently applicable to the facilities at issue. As such, EPA does not believe it is appropriate to wait for the revised regulations prior to issuing the new general permit.

With regards to reopening the permit to include any new requirements, EPA would point out that EPA must comply with NPDES regulations at 40 CFR 122.62(a) (causes for permit modification). These regulations place certain restrictions on permit modifications based on new regulations. However, EPA would reopen the permit, if appropriate, based on new information which may surface during the development of the new regulations which indicates that the discharges could cause unreasonable degradation of the marine environment.

14) Comment: SBC recommended that Coast Guard approved sanitation devices be required for all offshore facilities. In addition, the commenter recommended that existing technological alternatives be used to reduce discharges into the marine environment.

Response: The general permit states that marine sanitation devices approved by the Coast Guard are considered to be in compliance with the permit. However, the permit must ensure compliance with EPA's own effluent limitations guidelines for this industry. The discharges from sanitation devices were reviewed by EPA when the most recent effluent limitations guidelines were promulgated in 1993. EPA is not aware of technological advances since then which would be appropriate to require in the permit, nor did the commenter provide such information. Moreover, these discharges are generally considered to be minor discharges without a significant environmental impact.

15) Comment: SBC recommended that the permit prohibit free oil and formation oil and that the static sheen test be required once per day when discharging, with a requirement to report the number of days is sheen is observed.

Response: The proposed permit had already prohibited free oil in all discharges (except produced water where a numeric effluent limitation applies instead), and this requirement is retained in the final permit. EPA also believes that formation oil discharges are appropriately limited via the free oil prohibition and the numeric effluent limitation for produced water. In addition, the permit requires daily sheen tests for drilling fluids and cuttings discharges when drilling into the hydrocarbon bearing zones, and before bulk discharges. These are the highest risks discharges, and EPA believes that weekly monitoring is appropriate for other discharges in view of the lower risks.

16) Comment: SBC recommended that the permit require compliance with the State water quality standards in the California Ocean Plan.

Response: Like the proposed permit, the final permit incorporates EPA's marine water quality criteria. The permit does not apply in State waters and EPA believes its own water quality criteria are the appropriate criteria for the Federal waters where the permit applies.

17) Comment: CSB recommended that monitoring data for produced water be submitted as it is collected so that any early trends may be spotted. CSB was concerned that the reasonable potential submittal was not required until after 10 quarters of data had been collected.

Response: The permit requires quarterly submittal of discharge monitoring reports (DMRs) which include all the produced water sampling data which will eventually comprise the reasonable potential submittal. These submittals will allow any early trends in the data to be detected.

18) Comment: CSB requested an explanation of the public process for review of the reasonable potential data for produced water and any subsequent permit modification. SBC recommended that the permit include language ensuring a public review process for any permit modification.

Response: After EPA receives the reasonable potential data from the operators, EPA will review the data for reasonable potential to cause or contribute to exceedances of marine water quality criteria. The data will also be available for public review by interested parties. Where reasonable potential is found to be present, EPA will propose modifications of the permit to include appropriate effluent limitations.

The proposed permit had already stated that any modifications of the permit which are proposed will be conducted in accordance with 40 CFR Part 124. These regulations require public notification of interested parties and the opportunity for such parties to comment and/or object to any proposed permit modifications. Interested parties may also request a public hearing if they wish in accordance with 40 CFR Part 124.12.

However, EPA does not believe it is necessary to include all the specific procedural

requirements of 40 CFR Part 124 in the permit itself. EPA is bound by these requirements in any event, and including them in the permit would substantially increase the length and complexity of the permit. As such, the final permit only includes a reference to the fact that any permit modifications would be conducted in accordance with 40 CFR Part 124.

19) Comment: CSB requested that the permit clarify that during the reasonable potential phase for produced water, the permittees are only required to comply with limits for 11 of the 27 parameters which are included in the reasonable potential analysis. CSB also recommended that permittees be required to comply the limitations from individual permits, rather than the general permit. The commenter also suggested that numbering of the tables in the permit would be helpful.

Response: The final general permit was modified to provide additional clarification regarding the limits which would apply during the reasonable potential phase. For the permittees covered by the previous general permit, the limits for the 11 parameters listed in Part II.B.1.f would apply during the reasonable potential phase. Permittees previously covered by individual permits would be subject to the limits for the parameters in their individual permits. The final permit notes that Appendix B of the general permit specifies the previous permit from which each facility would obtain the applicable effluent limitations during the reasonable potential phase.

EPA also believes that the limits from the previous permits are appropriate for the reasonable potential phase of the reissued general permit. The individual permits issued in 1992/1993 do include effluent limitations for certain parameters beyond those included in the 1983 general permit. These limits would apply for the appropriate platforms during the reasonable potential phase. However, EPA believes that the reasonable potential analysis itself is the appropriate vehicle through which additional effluent limitations may be established for permittees covered by the previous general permit. As such, the final permit was not modified with regards to this issue. The tables in the final general permit were numbered in accordance with the commenter's recommendation.

20) Comment: CSB recommended that the permit include limits for other metals in barite besides just mercury and cadmium. Metals such as chromium, lead, zinc and arsenic were suggested.

Response: As noted in EPA's development document for the effluent limitations guidelines for this industry (EPA 821-R-93-003), mercury and cadmium are indicators for the presence or absence of other metals. By limiting mercury and cadmium, the permit simultaneously limits the other metals of concern to the commenter.

21) Comment: MMS requested that lease parcel P-0414 not be listed as P-0414a and P-0414b (as found in the proposed permit) since this is not a segregated lease.

Response: WSPA had requested that the lease be listed as P-0414a and P-0414b since there are two leases for different portions of the parcel. EPA discussed this matter further with MMS, and MMS agreed with the notation in the proposed permit (P-0414a and P-0414b) since P-0414 is an "aliquoted" lease. In addition, MMS indicated that lease parcel P-0403 should be similarly listed (as P-0403a and P-0403b) and the final general permit includes this recommendation.

22) Comment: MMS recommended that static sheen tests be performed prior to discharge whenever possible for both muds and cuttings. MMS indicated that this would be similar to the requirements for mercury and cadmium in barite where the tests are performed prior to discharge.

Response: EPA believes that the requirements for static sheen tests in the proposed permit are appropriate and has retained these requirements in the final permit. The sheen test must be performed prior to bulk discharges (consistent with the recommendations of the commenter) and daily when drilling through a hydrocarbon bearing zone. As such, the highest risk discharges are subject to the greatest scrutiny. However, EPA would point out that drilling muds and cuttings discharges may be continuous at times during drilling, making it impossible to always test prior to discharge.

23) Comment: MMS recommended that Part II.B.1.f of the permit concerning the initial investigation TRE workplan *require* the three elements listed in the condition, as opposed to having these elements optional as indicated by the proposed permit.

Response: EPA agrees with MMS on this matter; the final permit was changed to require the three elements of Part II.B.1.f of the permit.

24) Comment: MMS recommended that if produced water discharges are commingled with another discharge, then the volume limits for produced water in Part II.B.5 of the permit should apply to the combined discharge. This would have the effect of reducing allowable produced water discharges by the volume of the other discharge which is commingled.

Response: EPA disagrees with the commenter on this matter. The volume limits for produced water are based on concerns regarding the pollutants which may be present in this particular discharge. EPA does not believe produced water discharges need to be curtailed because another discharge which does not contain the pollutants of concern in produced water is commingled with the produced water. As such, the final permit retains the requirements which were in the proposed permit with regards to this issue.

25) Comment: MMS recommended that the permit provide that EPA may, at its discretion, require that oil and grease samples in produced water be taken at equally-spaced intervals during a 24-hour period.

Response: EPA agrees that this option could be useful if the oil and grease concentrations in the discharge were to vary in some regular fashion during a 24-hour period. EPA is not aware of any evidence that this occurs, nor did the commenter provide such evidence. The proposed permit had not specified that the samples be taken at equally-spaced intervals over 24-hours due to logistical difficulties for the sampling personnel. However, the final permit does provide that the permit may be reopened and modified to require that samples be taken at equally-spaced intervals over 24-hours if EPA determines that such sampling is needed to ensure compliance with the effluent limitations for oil and grease in produced water.

26) Comment: MMS recommended that the permit specify where the records which are required to be retained are to be kept. MMS recommended that the records be kept at the offshore facilities, where they would be available during inspections.

Response: EPA agrees that this is a useful clarification for the permit. Part III.F of the final permit was modified to specify that the records must be retained at the offshore facilities.

27) Comment: MMS noted that there are no active leases from Lease Sale #73, but there are two active leases from Lease Sale RS2. MMS recommended that the fact sheet be modified to so indicate.

Response: The final fact sheet was modified in accordance with this comment.

28) Comment: MMS recommended that the term "environmental analyses" in the fact sheet (in the discussion of NEPA requirements) be replaced with "environmental assessments" to more properly reflect NEPA terminology.

Response: The final fact sheet has been modified in accordance with this comment.

29) Comment: MMS pointed out that the terms "termination" and "terminated" as used in the fact sheet with regards to leasing were used incorrectly. The term "expiration" should have been used.

Response: The final fact sheet has been modified in accordance with this comment.

30) Comment: MMS indicated that the fact sheet needs to be updated with regards to the timing of potential future exploratory drilling operations. The draft fact sheet had indicated such drilling would start no sooner than the third quarter of 2001. MMS indicated that this should be no sooner than the second quarter of 2002.

Response: The recommended change in the fact sheet has been made.

31) Comment: MMS requested that EPA discuss the potential compliance consequences of effluents not being discharged at their normal locations (for example, the consequences of

discharges from pipe breaks prior to final treatment).

Response: The permit provides that the various effluents may be discharged from offshore facilities subject to the various effluent limitations and monitoring requirements. The permit does not specify where on a particular facility a discharge must occur; as such, a discharge occurring at a location other than the usual location would not necessarily be a permit violation. However, if an effluent were discharged from a pipe break prior to final treatment, this could result in non-compliance with the applicable effluent limitations and/or monitoring requirements. It is also possible that non-compliance could result if a discharge, such as produced water, took place at a location that did not ensure adequate dilution within the mixing zone.

32) Comment: MMS recommended that EPA acknowledge that a Sanctuary Advisory Committee is currently undertaking a Management Plan Review for the Channel Islands Marine Sanctuary. MMS also recommended that the fact sheet discuss whether the permit could be affected by the outcome of the review.

Response: The fact sheet has been modified to acknowledge this activity. The discussion notes that the permit could be modified if information developed through the Management Plan Review indicates that authorized discharges could cause unreasonable degradation of the marine environment. However, permit modifications pursuant to any new sanctuary regulations would have to be consistent with NPDES regulations at 40 CFR 122.62(a)(3), which place certain restrictions on permit modifications during the term of a permit based on new regulations, including new sanctuary regulations.

33) Comment: Robert Burke recommended that the permit require that permittees notify their contractors and subcontractors about the requirements of the permit. The commenter contended that the Clean Water Act and the permit provide that any person may be charged with a violation of the permit, not just the permittee.

Response: EPA recognizes that parties other than the permittees under the general permit could at times be liable for noncompliance with the requirements of the CWA at the offshore platforms. However, EPA also believes that the liabilities will largely rest with the permittees who will have an adequate incentive (in order to lessen their own liabilities) to ensure that contractors are informed of the permit requirements and the need to control pollutant discharges from offshore facilities overall. As such, the permit was not modified in this regard.

34) Comment: Robert Burke contended that it may be difficult to determine whether a particular operation is governed by an individual permit or the general permit.

Response: EPA disagrees that the determination of which permit applies would be difficult. There are only 22 platforms and EPA has proposed that they all be covered by the general permit. Although not stated, the commenter's real concern may have been the issue of whether an individual permit should be required in place of the general permit for some

operations. EPA agrees that such determinations will require a certain amount of judgment.

35) Comment: Susan Belloni expressed surprise and concern that the Federal government would be proposing to authorize discharges from offshore oil and gas facilities with little or no regulation or monitoring. The commenter requested an explanation.

Response: EPA disagrees that the discharges would be subject to little or no regulation or monitoring. The proposed permit and the final permit include numerous effluent limitations and monitoring requirements which are consistent with applicable regulations. This comment may actually stem from the fact that EPA, Region 9 has only recently begun to post proposed NPDES permits on its website (the comment was via email). At the time of its proposal, the OCS general permit was the only permit on the website and may have appeared to be something unique. EPA also pointed out separately to the commenter that the OCS general permit is one of thousands of similar permits which have been issued by EPA or NPDES-delegated states.

36) Comment: WSPA objected to the reopener clause in Part I.A.4 of the proposed permit which had differed somewhat from the reopener at 40 CFR 125.123(d)(4). EPA had modified the reopener to address any new requirements which may be developed pursuant to the President's Executive Order of May 26, 2000. WSPA also argued that the reopener clause in Part II.G.5.b of the proposed permit was not authorized.

Response: For the final permit, EPA has modified the reopener clause in Part I.A.4 since the proposed language did indeed vary from the language found at 40 CFR 125.123(d)(4). The reopener in the final permit combines language from 40 CFR 125.123(d)(4) and 122.62(a)(2). The reopener from 40 CFR 125.123(d)(4) provides that the permit may be modified if continued discharges may cause unreasonable degradation of the marine environment. NPDES regulations at 40 CFR 122.62(a)(2) also provide that a permit may be modified on the basis of new information which would have justified different permit conditions at the time of permit issuance.
For general permits, this includes information indicating unacceptable cumulative effects (40 CFR 122.62(a)(2)). EPA believes that the revised language (although still not exactly the same as 40 CFR 125.123(d)(4)) is appropriate since it simply combines authorities which are provided by the regulations.

Part II.G.5.b of the proposed permit was deleted from the final permit since this reopener language was not consistent with the authorities provided by NPDES regulations at 40 CFR 122.62(a) regarding causes for permit modification and procedures to be followed. EPA would note, however, that the provisions of 40 CFR 122.62(a) would apply to the permit and could be invoked by EPA during the term of the permit.

37) Comment: WSPA and Venoco objected to the maximum volume limits in the proposed permit for produced water, drilling fluids and cuttings and excess cement. WSPA argued that there was no evidence in the record indicating that such limits are needed. They also

objected to the statement in the fact sheet which indicates that the volumes are the maximum amounts expected to be needed by operators. WSPA also noted that future permit modifications may be requested in the future and that this would represent an administrative burden for EPA.

Response: EPA has retained the proposed volume limits in the final permit. EPA believes the record clearly shows that higher volumes of discharges represent a greater risk to the environment. EPA believes that the limits are reasonable values which are appropriate to ensure no unreasonable degradation of the marine environment. The final fact sheet was changed, however, to indicate that the limits do not necessarily represent the maximum amounts platform operators expect to be needed. At a June 2000 meeting with EPA, various offshore operators submitted revised estimates of the maximum volumes of the discharges which may be needed in the future. In some cases, the estimates decreased while in others, the volumes increased. For cases where the volume decreased, the permit includes the revised (lowered) estimate as the limit. For cases where the volume increased, however, the permit includes the previous estimate as the limit. If larger volumes are needed, the general permit may be modified, or an individual permit could be issued. In either case, EPA believes that limits above those in the general permit should undergo further review prior to authorization.

38) Comment: WSPA expressed its belief that the need for individual permits should be rare for future exploratory drilling projects. The fact sheet had indicated that individual permits will be issued for exploratory drilling if the terms of the general permit are inappropriate.

Response: The need for individual permits for future exploratory drilling projects may or may not be rare. This will depend on the specifics of the projects which are not known at the present time.

39) Comment: WSPA suggested a workshop involving EPA, MMS and the operators prior to the effective date of the permit to ensure that all parties understand the terms of the permit.

Response: EPA agrees that such a workshop would be useful and will work with WSPA, MMS and other interested parties in arranging such a workshop.

40) Comment: WSPA suggested a number of editorial changes for the permit to improve clarity.

Response: The final permit incorporates the suggested changes. EPA agrees that the suggestions are reasonable and do not materially affect the requirements of permit. The changes are listed below:

Page 1 - the word “operations” was changed to “facilities.” (This change was made on page 3 also.)

Page 3 - the phrase "and exploration facilities located on" was added in the first sentence of Part I.A.6.a as follows: "For the development and production, *and exploration facilities located on* platforms listed above, . . ." This change clarifies that exploration drilling may occur on existing platforms as noted in the fact sheet. A similar revision was made in the second paragraph of Part I.A.6.a on page 4.

Page 4 - the term "development plan" was replaced with "development and production plan." The term "exploration plan" was retained since MMS indicated that this was the appropriate term.

Page 7 - footnote 7 was revised to recognize that the table in Part II.A.1 already requires sheen tests before bulk discharges.

Page 7 - Part II.A.2.a was revised to indicate that the diesel oil limitation must be "demonstrated through" the drilling fluids inventory rather than certified by the permittee. This change was for consistency with the limits for mercury and cadmium in barite in Part II.A.2.c of the permit.

Page 14 - the word "each" was changed to "an" in the first sentence of Part II.B.1.e.1 of the permit. This allows an operator to submit the reasonable potential analysis for produced water earlier than required by the permit.

Page 15 - The words "at least" were added to Part II.B.1.e.3 prior to "180 days" to allow flexibility in the submittal of monitoring data after the reasonable potential phase for produced water for constituents where reasonable potential is not determined to be present.

Page 15 - For clarity, the following sentence was added to the end of Part II.B.1.f.1: "These results shall be reported on the DMR." Part II.B.1.f.1 sets forth various effluent limitations during the reasonable potential phase of the permit.

Page 18 - The address of the regional toxicity coordinator was added to Part II.B.2.e.3.

Page 23 - Two typographic errors were corrected in Part II.B.9.

Page 27 - A comma was added after the words "water flooding" in Part II.F.

Page 28 - Part II.F.4 was revised to clarify that water quality criteria themselves are not necessarily end-of-pipe effluent limitations in the permit; the effluent limitations may be based on mixing zones.

Page 36 - A typo was corrected in the spelling of the word "causes."

Page 37 - An "s" was added to the word "determine" to correct an omission.

Page 39 - The word "is" was replaced with "in" to correct a typo in the definition of "drilling fluids."

Page 41 - The definition of "new source" to changed to correct typographical errors.

B. Comments on the ODCE

1) Comment: SBC expressed a number of concerns regarding the ODCE which was prepared in support of the general permit issuance. SBC argued that the study was inadequate and did not support the conclusions reached by EPA concerning unreasonable degradation of the marine environment. SBC's specific concerns with the ODCE were that the document failed to address: 1) the importance of the receiving water area to the surrounding biological community, 2) the potential impacts on human health through direct and indirect pathways; and 3) the existence of special aquatic sites, including marine sanctuaries.

SBC also argued that the ODCE was inadequate in addressing the composition and vulnerability of biological communities. The commenter noted that Chapter 5 of the ODCE includes a long description of the biological communities but only a short discussion of the vulnerability. Concerns were also expressed regarding the various specific impacts to marine organisms which were described in the ODCE.

The commenter also disagreed with the ODCE's conclusion that the permit would comply with the California Coastal Management Program (CMP), and concerns were again expressed regarding the brief discussion of vulnerability in Chapter 5. Further, the commenter objected that Chapter 6 of the ODCE did not include an analysis of impacts to fisheries as had been indicated in Chapter 7.

Lastly, SBC contended that EPA itself had determined that the evidence was insufficient to support a conclusion of no unreasonable degradation. SBC cited two examples in the ODCE where inadequate information for this conclusion appeared to exist.

Response: It should first be noted that the ODCE has been revised in response to concerns raised by SBC (and also WSPA and CSB as discussed below), and EPA believes that the revised ODCE adequately addresses these concerns. With regards to SBC's concerns, the ODCE does include an extensive description of the marine resources in the receiving waters where the discharges would occur and the importance of the resources in this area. This description is found primarily in Chapters 3, 5 and 6 (which have been expanded in the revised ODCE). The Executive Summary (Factor 4) also provides an overview of the importance of the receiving water to the surrounding biological community.

EPA also believes that the ODCE also adequately addresses human health impacts. The one pathway through which human health could potentially be impacted would be through the

consumption of marine organisms which had bioaccumulated toxic materials from the discharges. However, the ODCE notes that bioaccumulation of toxic materials from the discharges is not expected to occur to a significant degree which could impact human health from the consumption of marine organisms. As a further indication of the absence of human health effects, the ODCE notes that mussels harvested from the platforms themselves (where pollutant concentrations are highest) are still suitable for human consumption.

It should also be noted that the final permit was modified in accordance with the results of the Essential Fish Habitat consultation which EPA recently conducted with the National Marine Fisheries Service in accordance with the 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act. In particular, the final permit requires the following within six months of the effective date of the permit:

- An evaluation of the direct lethal, sublethal and bioaccumulative effects of produced water on Federally-managed fish species on the Pacific OCS (e.g., blue rockfish, bocaccio rockfish, brown rockfish, olive rockfish, and lingcod) at key life stages (e.g. juvenile and adult) occupying the mixing zone of produced water discharges.

- Model results describing the dilution and dispersion plumes from each point of discharge of produced water for all platforms covered by the permit which may discharge produced water to determine the extent of the area in which Federally-managed fish species may be adversely affected.

- Proposed mitigation measures if the information required by Part II.H.a or b above indicates that substantial adverse effects to Federally-managed fish species or Essential Fish Habitat do occur.

The above study requirements should provide additional information concerning the potential for human health impacts. When submitted, the above information will be evaluated by EPA, NMFS and other interested parties; the permit also provides that the permit may be reopened and modified to include additional effluent limitations or other requirements depending on the results of the above evaluations.

EPA also believes that the revised ODCE adequately addresses special aquatic sites including marine sanctuaries. A list of such sites is found in Chapter 5. The revised ODCE also discusses the potential impacts on these sites and concludes that such sites would not be adversely affected by the discharges. EPA believes that the permit will be protective of marine resources outside the 100 meter mixing zone. All special aquatic sites are well beyond this distance and should not be adversely affected.

With regards to the analysis of the impacts in Chapter 5, it should be noted this is a summary of the impacts. Chapter 4 includes a more detailed discussion of the impacts to the species described in Chapter 5. The conclusions in Chapter 5 are intended to draw upon the

analyses in Chapter 4. Although Chapter 4 does note that certain impacts may occur from the discharges, in EPA's judgment, these impacts do not rise to the level of "unreasonable degradation" as defined in the Ocean Discharge Criteria regulations.

EPA also believes that the ODCE supports the conclusion that the permit would be consistent with the California CMP. First, as noted above, the discussion of impacts in Chapter 5 is intended to be a summary discussion which draws upon the analyses and information in Chapter 4. With regards to fisheries impacts, Chapter 7 has been revised to refer to the analyses and data in Chapters 4 and 6, and the separate EFH assessment which was prepared. EPA believes that the revised ODCE adequately addresses the concerns of the commenter on this matter. It should also be noted that EPA's letter of certification to the California Coastal Commission elaborates considerably on the discussion in the ODCE.

Lastly, the ODCE has been revised to address the areas where the commenter had argued that the earlier version had raised uncertainties about the potential effects of the discharges. One concern had to do with the implications of the altered substrate around platforms from drilling muds and cuttings discharges. EPA believes that given the limited number of platforms and limited spacial extent of any impacts, that the discharges would not cause unreasonable degradation. The ODCE was revised to include additional discussion of this matter, including a review of the MMS Santa Maria Basin studies, which indicate that the effects of the discharges should not be significant. The commenter had also noted in Chapter 4 where a researcher in 1983 had raised concerns about bioaccumulation of pollutants from drilling fluids discharges. The ODCE was revised to reflect additional analyses conducted since 1983 which EPA believes adequately address this concern.

2) Comment: CSB expressed concern that the ODCE had not adequately addressed the ten factors in the Ocean Discharge Criteria regulations (40 CFR 125.122(a)), including for one, the impacts of the discharges on special aquatic sites. CSB pointed out that Platform Gail is less than one mile from the Channel Islands Marine Sanctuary.

Response: As noted above, the ODCE has been modified in response to concerns raised by commenters. The revised ODCE includes an Executive Summary which summarizes how the ODCE responds to each of the ten factors in the Ocean Discharge Criteria regulations. The ODCE was also revised to include more discussion of the potential impacts to special aquatic sites. With regards to Platform Gail, this platform is about 1,100 meters from the boundary of the Channel Islands Marine Sanctuary. Although impacts to marine organisms may occur within the 100 meter mixing zone around a platform, the Marine Sanctuary is well beyond the boundary of the mixing zone of Platform Gail and should not be significantly impacted by the discharges from the platform.

EPA would also point out that general permit provides that individual permits may be issued for any offshore facilities when the terms of the general permit are inappropriate. Potential impacts to special aquatic sites would be a factor which is considered in making such

determinations.

3) Comment: WSPA also commented extensively on the ODCE. Although WSPA supported for conclusions of the ODCE, this commenter had numerous comments on its contents. WSPA also provided two additional studies (GOOMEX and DOE studies) that were not included in the previous ODCE but which WSPA deems to further support the conclusions of the ODCE.

Response: As noted previously, the ODCE has been revised in response to concerns raised by SBC, CSB and WSPA. The revised ODCE does cite the GOOMEX study since EPA believes it materially adds to the discussion concerning the potential for bioaccumulation of drilling fluids constituents in marine organisms. The DOE study has been added to the administrative record for the final permit. EPA's responses to WSPA's other comments follow below (by page number in the original ODCE):

Page 2-3 - WSPA noted that no reference for Bigham et al (1982) was provided in the references section of the ODCE.

Response: The reference in question was deleted from the revised ODCE. An alternate reference (U.S. EPA, 1985) was substituted which makes the same point that drilling fluids discharges in the receiving water are largely associated with a particulate fraction.

Page 2-3 - WSPA was unable to find a reference for the metals concentrations in drilling fluids in Table 2.2.

Response: The ODCE was revised to include a reference (Ayers, et al, 1983) for these data.

Page 2-3 - WSPA contended that most of the metals in barite are in insoluble form, and are not readily bioavailable.

Response: The ODCE was revised in its discussion of bioaccumulation of drilling fluids constituents and EPA believes that the revised document is generally in accord with WSPA's comment.

Page 2-4 - WSPA noted that bulk discharges of drilling fluids may also occur when the solids concentration in the mud system has to be adjusted by the introduction of diluent water.

Response: The ODCE was revised to indicate that bulk discharges may also occur at the times noted by the commenter.

Page 2-7 - WSPA found it hard to believe that benzo(a) pyrene (BAP) was present in high enough concentrations in produced water to exceed marine water quality criteria.

Response: Effluent limitations were included in the proposed permit for one platform based on the measured concentrations of BAP at that platform, and EPA's statistical process for assessing reasonable potential to exceed marine water quality. EPA believes that the data indicate that BAP may indeed be present in concentrations which may cause or contribute to exceedances of marine water quality criteria.

Page 2-7 - WSPA pointed out a typographical error concerning the volume of produced water discharges from the California platforms.

Response: This error has been corrected in the revised ODCE.

Page 3-9 - WSPA pointed out a typographical error concerning wave heights on the California OCS.

Response: This error has been corrected in the revised ODCE.

Page 3-21 - WSPA asked what "VC" was since this term was not explained.

Response: The ODCE was revised to delete the sentence in which this term had occurred. This was apparently a typographical error regarding the degree of temperature variation for bottom ocean conditions; however, the revised text provides an adequate discussion of this matter.

Page 3-33 - WSPA argued that produced water particulates may actually have a "negative" sinking velocity rather than a low sinking velocity as indicated in the ODCE.

Response: The ODCE was revised to indicate that a negative sinking velocity is possible.

Page 3-33 - A 1983 reference in the ODCE had indicated that flocculation of particles in produced water discharges was expected to increase settling rates. WSPA asked whether this assertion was still current since it has not been reported.

Response: Given the uncertainty regarding this matter, the ODCE was revised to suggest that flocculation may occur, not that it would be expected to occur.

Page 3-33 - WSPA contended that most trace metals form insoluble precipitates and settle out in the water column.

Response - The ODCE was revised to recognize that this may occur.

Page 3-34 - WSPA disputed the first sentence on the page which indicated that California produced waters are similar in salinity to the receiving waters.

Response: EPA agrees that this sentence is not necessarily accurate and the ODCE was revised to delete the sentence.

Page 3-35 - WSPA argued that barium is not a conservative tracer of drilling fluids, i.e., different portions of the fluids will have different settling velocities and the presence of barium may not necessarily be an accurate indicator for the presence of other drilling fluids constituents.

Response: EPA believes that the revised ODCE generally recognizes this factor in Chapter 3.8. The ODCE notes that different portions of drilling fluids discharges have different fates.

Page 3-35 - WSPA noted that Jenkins, et al (1989) was not mentioned in the ODCE. Jenkins had concluded that barium is only ingested as particulate matter (and then could be egested) by marine organisms rather than being bioaccumulated.

Response: EPA agrees that this study is worth including in the ODCE, and the ODCE was revised to include a discussion of the results of the study in Chapter 4.1.6.

Page 3-36 - With regards to Table 3.3, WSPA asked whether the researchers took subsurface cores and conducted a mass balance to determine the barium levels to two decimal places.

Response: EPA discussed this matter with the researchers involved in conducting the study (SAIC) and determined that subsurface cores were taken with a mass balance to determine the barium levels.

Page 4-2 - WSPA agreed with the ODCE's conclusion that toxicity studies in the Gulf of Mexico and Alaska would be relevant to California.

Response: EPA agrees that these data are of interest and the ODCE continues to cite various studies from areas other than California.

Page 4-8 - WSPA contended that Petrazzuolo (1983) had concluded that only limited effects occur to the fouling community on a platform.

Response: EPA would generally agree with this assessment, which is retained in the revised ODCE.

Page 4-8 - WSPA argued that the 1980 Thompson studies are old and had design flaws.

Response: The ODCE was revised to delete reference to the Thompson studies and include additional discussion of more recent studies such as the California studies conducted by MMS.

Page 4-9 - WSPA noted again that barium is not necessarily a conservative tracer for drilling muds.

Response: This issue was addressed above under WSPA's comment on page 3-35 of the ODCE.

Page 4-10 - WSPA noted that another study (Booth and Presley), which was not mentioned in the ODCE, contained an extensive amount of information concerning metals distribution in sediments from drilling fluids discharges.

Response: This study (Booth and Presley, 1989) was added to the administrative record for the permit. In addition, Chapter 3.8 of the ODCE has been revised to include an expanded discussion of the fate and transport of drilling fluids which EPA believes adequately addresses the issue.

Page 4-10 - WSPA recommended that a study conducted by Mariani, et al (1980) should be deleted from the ODCE due to errors. WSPA recommended another reference (E.G.&G, 1982).

Response: WSPA did not indicate the nature of the errors in Mariani, et al; the ODCE was not revised to remove reference to this study. However, E.G.&G. (1982) is in the administrative record for the permit.

Page 4-12 - WSPA argued that a 1983 reference (Petrazzuolo) indicating that bioaccumulation may be significant from drilling fluids discharges was out of date. WSPA also recommended a number of other references which should be considered such as GOOMEX (1995).

Response: The ODCE was revised to remove the statement in question. The ODCE was also revised to reflect more recent information concerning bioaccumulation potential from drilling fluids including the GOOMEX study. EPA believes that more recent information indicates that the bioaccumulation risks from drilling fluids discharges will not be significant thus the ODCE was revised accordingly.

Page 4-12 - WSPA suggested some additional references to be reviewed including MMS EISs in California and the Gulf of Mexico; Boesch and Rabalais, 1987 and the 1983 National Research Council (NRC) report on drilling discharges.

Response: These references are part of the administrative record for the permit (the NRC report is also referenced in the revised ODCE). However, EPA does not believe that these references change the overall conclusions of the ODCE.

Page 4-12 - WSPA contended that the information in the ODCE did not support the

statement that the available data are insufficient to conclude that "regional-scale impacts are not occurring" from drilling fluids discharges.

Response: The ODCE was revised to remove the statement in question. EPA agrees that with the level of development expected during the term of the permit, regional-scale impacts would not be expected.

Page 4-13 - WSPA argued that the ODCE may be exaggerating the distance that barium may be detected from drilling fluids discharges (e.g., up to 20 km).

Response: The ODCE was revised to include a more general discussion of the observed distribution of barium from drilling projects which EPA believes appropriate characterizes this issue.

Page 4-13 - WSPA contended that the ODCE should include a section addressing the potential to exceed marine water quality criteria for drilling fluids. WSPA provided an assessment of this matter.

Response: The ODCE was revised to include an analysis of this issue. EPA believes that the data indicate that the discharges should not cause unreasonable degradation of the marine environment.

Page 4-13 - WSPA contended that BAP (benzo (a) pyrene) is present in produced water only in low concentrations.

Response: The ODCE generally characterizes the risks from discharges of PAHs such as BAP as low, and this is more or less consistent with WSPA's comment on this matter.

Page 4-14 - WSPA noted that despite the data of Table 4.4 concerning bioaccumulation factors for produced water, actual field measurements are low.

Response: Table 4.4 has been deleted from the revised ODCE in favor of a narrative discussion of bioaccumulation from produced water discharges. The discussion indicates that bioaccumulation should not be significant and this is generally in accord with WSPA's comment.

Page 4-14 - WSPA argued that data from other geographic areas such as the Gulf of Mexico concerning bioaccumulation can reasonably be extrapolated to the California OCS. WSPA cited a reference in support of its position (Neff, 1997).

Response: EPA does not disagree with WSPA on this matter. Although the discussion in the ODCE has been revised somewhat, it retains the conclusion that results from the Gulf of Mexico are relevant to California. Also, the ODCE had already cited a separate study by Neff (also from 1997) which supports this conclusion.

Page 4-17 - WSPA argued that the ODCE understated the absence of harmful human health effects associated with BTEX discharges in produced water.

Response: The discussion of this issue was revised somewhat, but the ODCE retains the general conclusion that the discharges should not pose a significant human health threat. This is consistent with the commenter's view for the most part.

Page 4-18 - WSPA argued that the evidence of bioaccumulation of PAHs in marine organisms is quite limited.

Response: Although the ODCE's discussion of bioaccumulation of PAHs was revised somewhat, the document retains the general conclusion that this should not be a significant problem. This is consistent with the commenter's view.

Page 5-60 - WSPA agreed with the ODCE that the impacts of the discharges would be localized.

Response: The revised ODCE was not changed on this matter.

Page 5-61 - WSPA argued that Table 5.18 summarizing the impacts of drilling fluids and cuttings and produced water discharges should be deleted, or at least the word "potential" should be added as a modifier for the word "impacts." WSPA felt this was necessary for consistency with the text of the ODCE.

Response: EPA agrees with the comment and the table has been removed. The ODCE retains a somewhat revised discussion of the potential impacts of the discharges.

Page 5-62 - WSPA contended that the discussion of harvesting of mussels (and scallops) for restaurant consumption was too brief and fails to make the point that these organisms are not bioaccumulating toxic materials from platform discharges.

Response: The revised ODCE notes the general absence of bioaccumulation in the tissues of these organisms. EPA believes that the revised discussion appropriately characterizes this matter.

Page 7-2 - WSPA argued that the last sentence which reads "Mixing and transport processes of high energy coasts will not be affected by discharges of drilling muds and cuttings," would not make sense in the given context.

Response: EPA agrees that since the effects of the discharges are localized, the sentence would be out of place; the sentence was removed in the revised ODCE.

C. Comments on the EFH Assessment

1) Comment: SBC disagreed with the conclusion of the Essential Fish Habitat (EFH) assessment that the effects of the discharges would be minor. SBC argued that additional effluent limitations or other mitigation should be required.

Response: EPA disagrees that with the commenter on this matter. EPA acknowledges that there may be effects near an outfall, but as noted in the EFH assessment, these impacts should be minor overall given the effluent limitations of the permit and the limited geographic extent of the impacts in comparison to available fish habitat overall. It should also be noted that the EFH assessment has been revised to reflect comments which were received. The National Marine Fisheries Service (NMFS) has also reviewed the proposed permit and the revised EFH assessment and similarly concluded that the effects of the discharges would not be significant for EFH.

2) Comment: WSPA agreed with the conclusions of the EFH assessment but provided extensive comments on the content of the assessment. EPA's responses to these comments follow below (by section or page number in the original EFH assessment):

Section 1.0 - WSPA argued that the EFH assessment should have mentioned Amendment 11 (Dated October 1998 and approved March 3, 1999) to the Pacific Coast Groundfish Management Plan.

Response: The EFH assessment had already cited Amendment 11. To ensure a thorough review, however, another amendment (Amendment 13, which was not mentioned by WSPA) was also cited in the revised assessment.

Section 1.0 - WSPA indicated that the EFH assessment should include a section addressing proposed mitigation to ensure compliance with regulatory requirements.

Response: The EFH assessment was revised to include Section 6.3 which addresses this matter.

Section 3.0 - WSPA noted that many of its comments on Chapter 2 of the ODCE would be applicable to section 3.0 of the EFH assessment.

Response: EPA has responded to these comments above in section B which addresses comments on the ODCE.

Page 5-1 - WSPA noted that a 1978 reference was cited regarding 30 fish species which may be of commercial significance. WSPA expressed concern regarding whether this reference is still current.

Response: The EFH assessment was revised to cite more recent references concerning this matter which EPA believes are current.

Page 5-2 - WSPA argued that some species listed in Table 5.1 are not protected by an EFH and may or may not be prey species.

Response: The list of species in the original EFH assessment was taken from Helvey (1999). However, the list was reconsidered for the revised assessment, and as a result, one species (thornyhead) was deleted. We believe that the revised list is an appropriate list of fish species managed under the fisheries management plans which may be present around production platforms.

Page 5-5 - WSPA noted that Helvey (1999) had indicated that additional research is needed to more completely assess the value of platform habitat for groundfish. WSPA recommended that such research not be made a permit requirement.

Response: In its review of the revised EFH assessment, NMFS did not recommend additional research related to the value of platform habitat for groundfish. As such, the final permit does not include such a requirement.

Page 6-1 - WSPA argued that several recent studies have addressed the issue of bioaccumulation of pollutants from produced water discharges, and that the studies have concluded that this is not a significant problem.

Response: The EFH assessment was revised to include additional discussion of this matter, including reference to some of the studies mentioned by WSPA. The previous version of the EFH assessment had already concluded that bioaccumulation of pollutants from produced water discharges should not be a significant problem and this conclusion was retained in the revised EFH assessment. As such, the EFH assessment is in general accord with WSPA's comment.

Page 6-1 - WSPA noted that the surface area of the mixing zones around the 22 platforms is small relative to the total area of the lease blocks, and even much smaller in comparison to the area out to the Channel Islands.

Response: EPA believes that the EFH assessment already recognizes this factor in the Executive Summary and in section 7.0.

Page 6-2 - WSPA argued that the considerable presence of groundfish around platforms suggests a rather healthy environment for marine organisms.

Response: This factor is already acknowledged in section 7.0 of the EFH assessment.

Page 6-2 - WSPA argued that Table 6.1 should be deleted or that the table should recognize that the impacts are "potential" impacts.

Response: The title for Table 6.1 was revised from "impacts" to "potential impacts" since this more accurately tracks the discussion in the text.

Page 6-3 - WSPA contended that the physical effects of the biofouling biomass which falls from a platform over time will exceed the effects of drilling cuttings.

Response: This may be true, but it does not change the fact that the cuttings themselves may have an effect. EPA believes that the EFH assessment appropriately characterizes the effects of the cuttings.

Page 6-5 - WSPA argued that, almost exclusively, barium is the only metal showing any enrichment in sediments beyond 300 m around platforms. WSPA expressed concern that the EFH assessment (using a 1983 Petrazzuolo reference) mischaracterized the metals distribution around platforms.

Response: The 1983 reference was removed in the revised EFH assessment and replaced with a discussion based on more recent studies, including the California studies in the Santa Maria Basin.

Page 6-7 - WSPA disagreed with the statement in the EFH assessment that impacts from the discharges were plausible to middle water column organisms. WSPA did agree with the assessment which followed that the impacts would not be significant.

Response: EPA believes that it is accurate to state that impacts are plausible from the discharges. However, the EFH assessment was revised simply to note the results of the short- and long-term studies which have been conducted.

Page 6-7 - WSPA disputed the statement (from a 1983 reference) indicating that biota may be influenced by fine particulates in produced water influenced by sorption, flocculation and particle cohesion.

Response: EPA agrees that the statement is somewhat speculative and it was deleted from the revised EFH assessment.

Page 6-7 - WSPA disputed the statement in the EFH assessment that for produced water discharges, the change in redox potential in the saline receiving waters may change chemical properties and partitioning characteristics of the water column.

Response: The statement in question was removed in the revised EFH assessment since the statement is speculative and was not supported by any laboratory or field data.

Page 6-8 - WSPA argued that actual exposure durations for drifting organisms such as zooplankton to platform discharges would be quite short (shorter than the exposures envisioned by chronic or acute water quality criteria).

Response: EPA recognizes this factor, but we also believe it is appropriate to be conservative in setting effluent limitations in permits based on water quality criteria.

Page 6-8 - WSPA argued that the assessment should be specific concerning the speciation of compounds such as arsenic in produced water. WSPA cited a reference indicating that the various forms of arsenic vary in their toxic effects.

Response: EPA disagrees that the assessment necessarily needs to address this matter. EPA has established a marine water quality criterion for arsenic based on total dissolved arsenic, rather than separate criteria for the various forms of arsenic. EPA believes that the established criteria (such as the criterion for arsenic) are the appropriate factors for the EFH assessment to consider in evaluating the effects of the discharges.

Page 6-14 - WSPA argued that benzo(a) pyrene was not a common component of produced water.

Response: This constituent was detected at one platform at a concentration which, using EPA's statistical procedures, would have the reasonable potential to cause or contribute to exceedances of marine water quality criteria. Therefore, for the one platform, effluent limitations were included in the final general permit. In addition, monitoring for this constituent is required for all the platforms. EPA believes that the general permit requirements are appropriate based on the available data for the constituent in question here.

Page 7-1 - WSPA disputed the statement in the EFH assessment that impacts on EFH species were plausible within the mixing zone. WSPA argued that such impacts have not been observed in field studies.

Response: EPA believes the characterization of the potential impacts in the EFH assessment is reasonable and not exaggerated. The assessment did not claim that impacts necessarily would occur, only that they were plausible. However, the EFH assessment was revised to note that some impacts could occur that would be localized or temporary and generally not significant to EFH overall.